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DEPARTMENT OF THE ARMY

Modernization remains critical to the future of the United States Army. Although procurement dollars are not projected to increase for several years, we continue to develop new systems by leveraging and adapting technology from the private sector. Improvements to our existing systems are the best way to achieve the greatest returns for scarce resources and to leverage technology to the extent possible.

Statement by The Honorable Togo West Jr. to
House Appropriation Committee, March 30,1995

Introduction

This chapter provides a clear understanding of the Army's current modifications and upgrades process. The Army defines modifications and upgrades in the same manner as the OSD. The Army's modification and upgrade policies, like the DoD, have undergone major changes in the last two years. These were due, not only to Change 1 of DoDI 5000.2, but DoD's recent drive to streamline the acquisition process.

This chapter is divided into six sections. First is a discussion of the environment that has shaped the Army's current policy and decision process. The second section explains why the Army conducts modifications and upgrades. The third section provides the definition of key terms used in the modification and upgrade process. Section four covers the Army's force development process. The understanding of this process is critical to the execution of any modification and upgrade program. Section five is the heart of the chapter. This section addresses the current Army guidelines for the material developer. The final section addresses new initiatives in the modifications and upgrades process. The Army's policies on modifications and upgrades continue to be dynamic and evolving. These traits ensure these policies keep pace with the environment in which they must operate.

Environment

Today the U.S. Army faces the challenging mission of maintaining "land force dominance" in an ever changing world. The Army's fundamental charter, as Secretary of the Army West, stated "...is to win our nation's war and to protect its vital interest."[1] The environment in which the Army

finds itself has changed in three basic ways. First, the strategic environment in which the Army is developing and producing weapon systems today differs greatly from the world of only a few short years ago. Second, the expectations and plans at the end of the Cold War prove inaccurate for land force requirements. Third, the expected reductions in funding prove to be even greater in the areas of research, development and procurement.

The U.S. no longer faces a well defined and technologically sophisticated threat posed by a single massive power, the former Soviet Union. The threats against which the U.S. designs and builds weapon systems are often unpredictable and numerous, because of access to a worldwide sophisticated weapons market. Such changes in the threat forces changes in doctrine, force deployment and weapon system development. The U.S. Army has moved from a large "forward presence" force in Europe and elsewhere to a "power projection" force based in the U.S. Weapon system development has changed from a design and development cycle, focused on remaining inside the development cycle of former Soviet Union, to a program based on continuous modernization.[2]

As the Cold War ended, the Bottom Up Review (BUR)started by the DoD hoped to reshape military force for the post-Cold War world. The BUR designed a force with emphasis on air and sea forces in anticipation of fewer land force requirements.[3] This anticipated requirement for fewer ground forces proved to be inaccurate, given the mission of today's Army. The Army is now faces the challenge of meeting increased requirements for troop deployment with a smaller force structure. The effect on the Army was a 300 percent increase in opera-

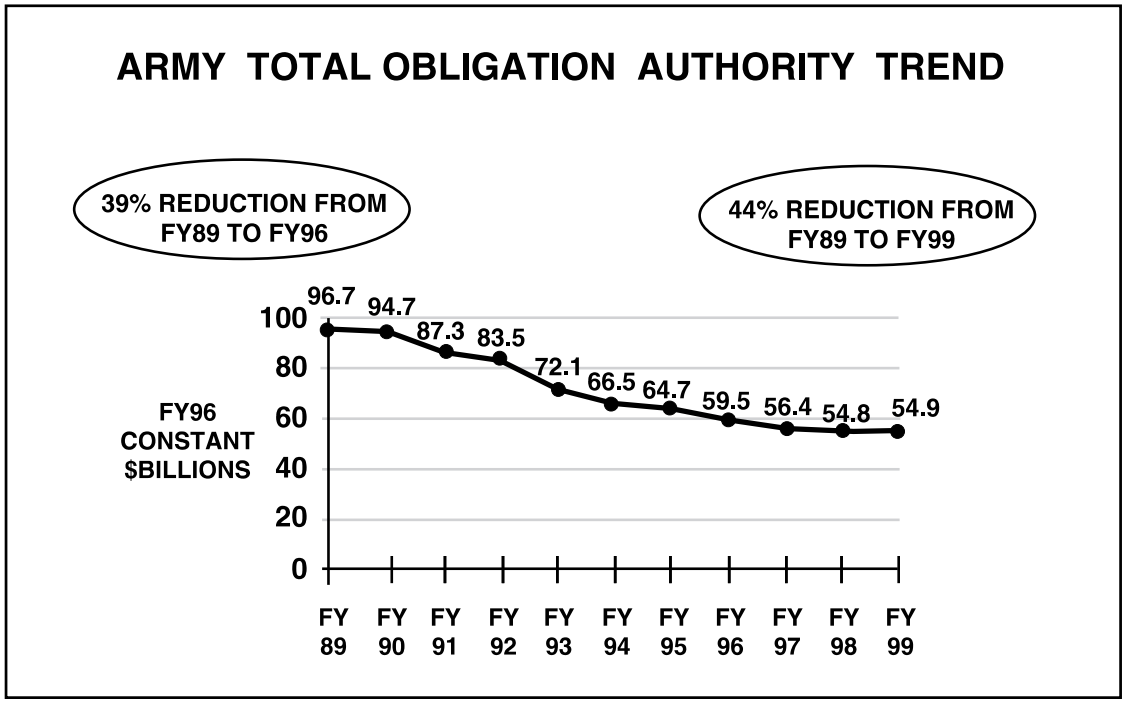

Figure 3-1. Army Total Obligation Authority Trend

tional deployments since 1989.[4] The increase in deployments coupled with a higher readiness requirement, has had a predictable impact on the Army's investment accounts, given a fixed overall budget.

Because of the Cold War ending, funding impacts are quite dramatic. The Army's total obligation authority (TOA) (constant FY 96 dollars) has fallen 39 percent from FY89 to FY96.[5] These reductions are projected to continue until at least FY99 when the total reduction in TOA will have reached at least 44 percent since FY89.[6] Most of the Army reductions occurred in the investment accounts. Procurement funds were reduced from 14.4 billion dollars in FY89 to a projected 7.1 billion by FY99.[7] The research, development test and evaluation (RDT&E) account is projected to be 3.7 billion by FY99 down from a FY89 figure of 5.1 billion.[8] These funding reductions force the Army to revisit its modernization process. The Army can longer afford business as usual in the area of modernization.

The Army modernization focus is no longer about systems; it is about capabilities.[9] The days of the major new starts have all but ended. The Army's predominant method of modernization of its equipment, in the near future, will be by modifications and upgrades.

Army Perspective

The reasons for modifications or upgrades are as varied as the sources, but they all have one thing in common; they correct an identified deficiency. The correction of an identified deficiency may take the form of any of the following:

- Changes in performance

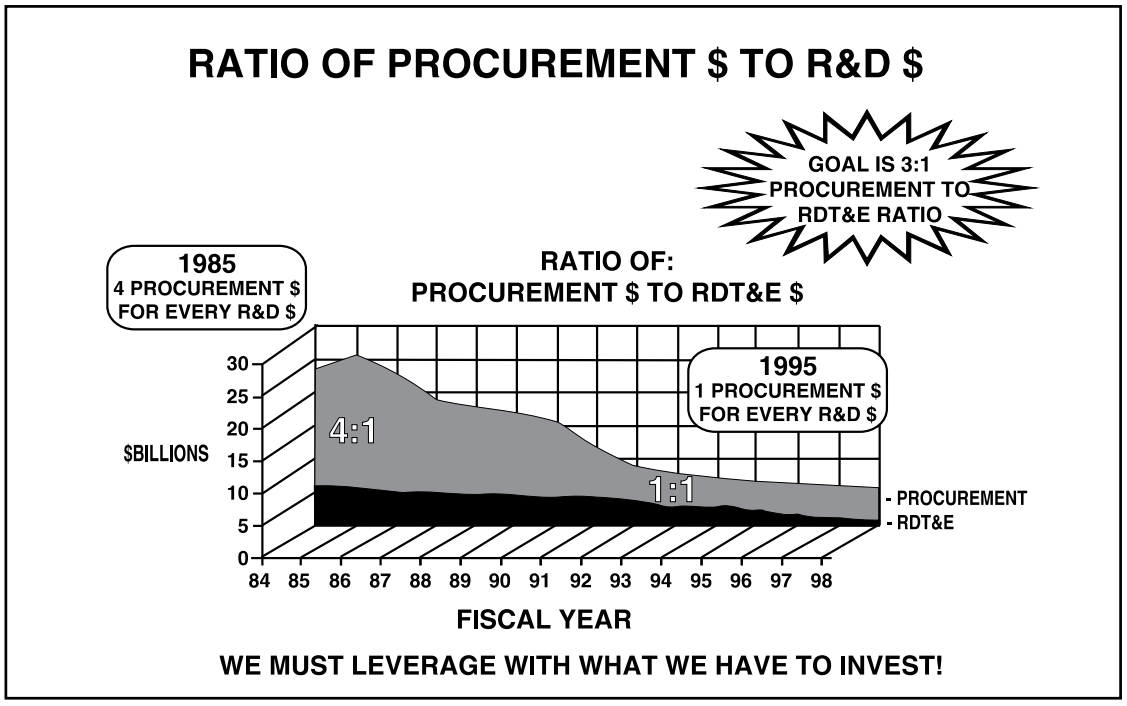

Figure 3-2. Ratio of Procurement $ to R&D $

- Changes in interface
- Compatibility
- Correction of deficiency
- Operational or Logistics
- Production stoppage
- Cost reductions
- Safety
- Value Engineering

The bulk of the Army's modifications and upgrades is in the area of performance improvement.[10] Confirmation of this fact by the Army's Material Change Information System shows performance improvements account for over 70 percent of the funding spent for weapon system modifications or upgrades.[11]

Suggestions for modifications and upgrades can originate from industry, an allied country or the DoD. Interviews with senior Army leadership ranked the material developer and industry as the primary source for modifications and upgrades. This, on the surface, would seem to be counter to the Army's user driven enhanced requirement process, but material developer and industry do understand the state of given technology.

Modification and upgrade programs offer the additional advantage of more accurate projection of resource requirements. Studies have shown product life extension programs are ten times more effective at predicting funding requirements than new production.[12]

Definitions

In discussing the process of modifications and upgrades, it is important to have a common point of reference. Such a common reference point must be based on a common understanding of the terms being used to describe the process. The lack of this understanding was very evident in the individuals interviewed. In most cases the terms are used interchangeably without regard for the impact on required documentation.

- **Horizontal Technology Integration (HTI):** Provides for the application of common technology across multiple systems or items to improve the warfighting capability of the force. It is a modernization requirement and acquisition process that simultaneously integrates technology into different weapon systems.[13]

- **Host System:** A system or end item that includes (but is not limited to) tracked and wheeled vehicles, aircraft, watercraft, missiles, ammunition, communication equipment or medical equipment designated to accept a mounted system or end item. The host system program retains configuration control of the single system resulting from the combination of the two (host and mounted) system.[14]

- **Mounted System:** A subsystem/end item designated to be incorporated into a host/end item. The mounted system program office normally retains configuration control over its item but does not retain configuration control over the single system resulting from the combination of the host and mounted systems.[15]

- **Combat Developer(CBTDEV):** Command or agency that formulates doctrine, concepts, organizations, material require-

ments and objectives. Represent the user community in the material acquisition process.[16]

- **Component Modernization:** A process by which a part, subassembly, assembly or accessory is replaced by an improved item when the old version fails. Form, fit, function and support requirements of the component are changed.[17]

- **Materiel Developer:** Research, development and acquisition command or agency assigned mission area responsibility for the system under development or production.[18]

- **Block Modification:** A grouping of modifications for the purpose of achieving economies in funds, personnel, equipment and time with the additional benefit of improved configuration management. A block modification includes several modifications in engineering, procurement and/or application that are managed as a single modification.[19]

- **Pre-planned Product Improvement (P3I):** Planned future evolutionary improvement of developmental systems for which design considerations are accomplished during development to enhance future application of projected technology.[20]

Force Development Process

The Army's force development process is the important first step of the modification and upgrade process. This process, coupled with the Army's Scientific and Technology communities, provides the requirements, priority, funding guidance and promising technologies to the force development process. This process is especially important for all upgrades since they return to Milestone 0 for evaluation.

The Enhanced Concept-Based Requirement System (ECBRS), and its accompanying mission area analysis, are the CBTDEV's current processes for determining battlefield requirements. The ECBRS is the latest evolution of the Concept-Based Requirement System(CBRS) developed in the 1970s. An ECBRS is the Army's disciplined approach to identify and prioritize doctrine, training, leader development, organization, material, and now, science and technology initiatives (S&T) in support of the National Military Strategy (NMS). The ECBRS moves away from the Cold War approach of the CBRS by emphasizing time and resource constraints.

The ECBRS is a three stage process. Stage 1 begins with strategic guidance in the NMS, DPG, Total Army Plan, CINCs' Integrated Priority Lists and the Army Modernization Plan (AMP), from which the Army develops its vision. Headquarters, Training and Doctrine Command (TRADOC) issue guidance based on analysis of the strategic guidance to the branches and proponents for the initiation and execution of the ECBRS cycle.

In stage 2, the branch or proponent schools develop their individual vision of the future battlefield. They determine the critical battlefield system within their area of responsibility. This is the phase in which the material developer and the technology base provide inputs to the ECBRS. The technology base conduit is the Battle Labs (BLs). The PMs and Materiel Commands use the TRADOC System Manager as entry into the ECBRS during this stage. The branch or proponent schools identify the critical battlefield system issues and determine required capabilities. Material solution approvals are one major component of this review process. Selection of acquisition alternatives for material solutions occur in the

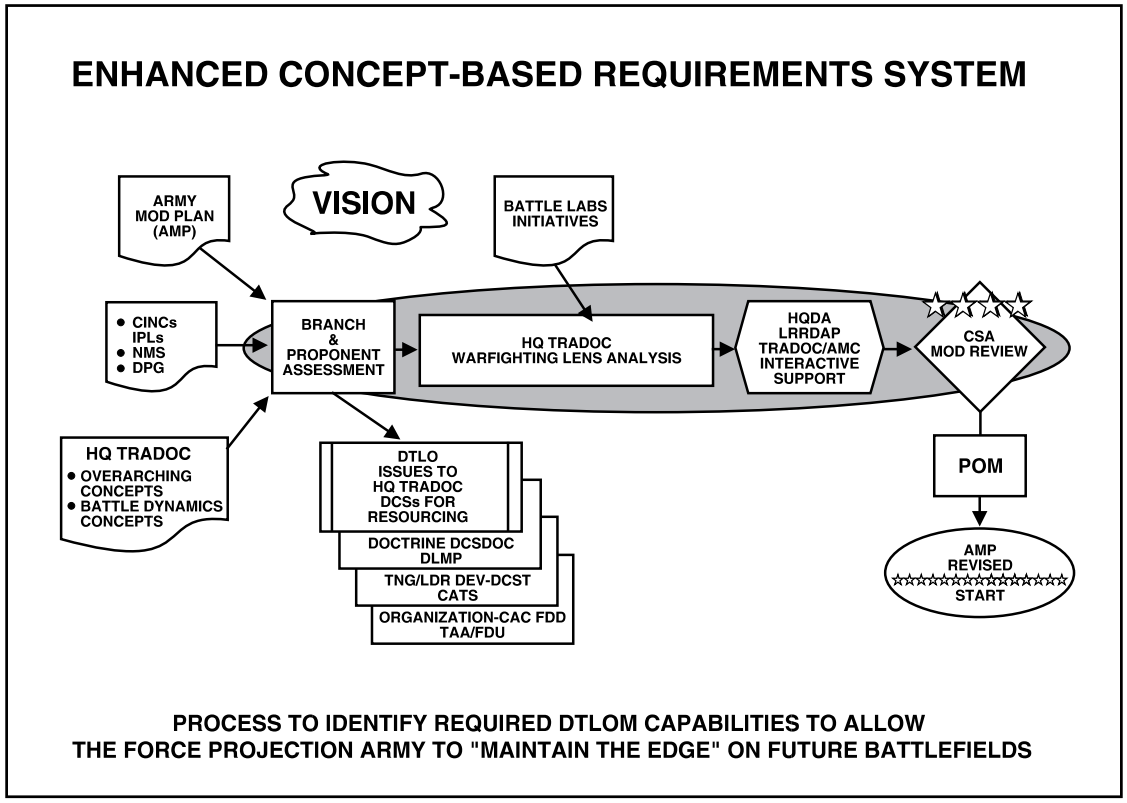

Figure 3-3. Enhanced Concept-Based Requirements System

following order: product improvement, non development item and new development. Examination of the alternative must include an evaluation of LCCs, affordability and force structure implementation. CBTDEVs are responsible for the development or updating the system requirement documentation. Initially, all major modifications, ACAT I and II, had to have a new ORD addressing the modification or upgrade.[21] ACAT III or IV programs could use an updated requirement document.[22] The approval process, for ACAT I or II, could take up to a year depending on the level of final approval. However, a recent memorandum signed by Mr. Noel Longuemare, Principal Deputy USD(A&T), has authorized the MDA, for ACAT II, III and IV programs, greater latitude in streamlining the acquisition process for each program.[23] This allows the MDA, for ACAT II programs, the opportunity to use an updated requirements document instead of a new ORD. The branch or proponent schools also develop a prioritized list of all modifications and upgrades for weapon systems within their area of responsibility. The schools forward the requirement capabilities to TRADOC for integration.

During stage 3, TRADOC conducts an analytical assessment of the current modernization strategy through a process called Warfighting Lens Analysis(WFLA). The WFLA identifies systems that provide the best required capabilities based on their synergistic effect on the battlefield. The ECBRS products are input into the Long-

ACQUISITION CATEGORIES (ACAT) AND MILESTONE DECISION AUTHORITY

ACAT	SELECTION CRITERIA	DESIGNATION AUTHORITY	MILESTONE DECISION AUTHORITY
I	• A program not classified as highly Sensitive by the Secretary of Defense that has: •• Been designated by the Under Secretary of Defense (Acquisition) as an acquisition category I program or is •• Estimated by the Under Secretary to require: – An eventual expenditure for research, development, test, and evaluation of more than $200 Million in fiscal year 1980 constant dollars (approximately $300 million in fiscal year 1990 constant dollars); or – An eventual expenditure for procurement of more than $1 billion in fiscal year 1980 constant dollars (approximately $1.8 billion in fiscal year 1990 constant dollars).	• Under Secretary of Defense (Acquisition) • Acquisition category I programs are further designated by the Under Secretary of Defense Acquisition as either requiring decision by the: •• Under Secretary - ACATID •• Component Head - ACATIC	• ACATID - Under Secretary of Defense (Acquisition) • ACATIC - DoD Component Head or, if delegated, the DoD Component Acquisition
II	• A program not meeting the criteria for category I that has: •• Been designated by the DoD Component Head as an acquisition category II or is •• Estimated by the DoD Component Head to require: – An eventual expenditure for research, development, test, and evaluation of more than $75 million in fiscal year 1980 constant (approximately $115 million in fiscal year 1990 constant dollars); or – An eventual expenditure for procurement of more than $300 million in fiscal year 1980 constant dollars (approximately $540 million in fiscal year 1990 constant dollars).	• DoD Component Head or if delegated, the DoD Component Acquisition Executive	• Executive DoD Component Head or, if delegated, the DoD Component Acquisition
III	• Programs not meeting the criteria for category I and II that have been designated category III by the DoD Component Acquisition Executive.	• DoD Component Acquisition Executive	• Executive Lowest level deemed appropriate by the
IV	• All other acquisition programs for which the milestone decision authority should be delegated to a level below that required for category III.	• DoD Component Acquisition Executive	• designation authority Lowest level deemed appropriate by the designation authority

Figure 3-4. Acquisition Categories (ACAT) and Milestone Decision Authority

Range Research, Development and Acquisition Plan (LRRDAP) by proposing revisions to the AMP and the Army Science and Technology Master Plan (ASTMP). Each ECBRS includes programmatic data, based on the schools' assessments and the TRADOC WFLA; and a prioritization of modifications and upgrades based on the branch or proponent assessment.

The DA Deputy Chief of Staff for Operations and Plans (DCSOPS), in close coordination with the Office of the Secretary of Army for Research, Development and Acquisition (OSARDA), develops the AMP. The AMP translates the modernization vision

into a strategy for near, mid-term and long-term modernization. The AMP links future joint warfighting capabilities with the Army's modernization objectives. The AMP, as the principle product of the ECBRS, codifies programs and major modification or upgrades required by the LRRDAP and Program Objective Memorandum (POM).

The approval, of modifications and upgrades, is the critical first step in the process. The material developer's understanding and execution of the modification and upgrade process is the means in which the soldier receives the material solution to an operational deficiency.

Guidance and Execution

The Army handles modifications differently than upgrades. Guidance on modifications is under the control of the OSARDA, while DCSOPS controls upgrade guidance. The Army's modification guidance has evolved from an Interim Operating Instructions (IOI), September 1990, to a newly written guidance letter, dated 26 July 1994. The final version will be published in DA PAM 70-3, expected in mid 1995. The IOI reference to upgrade guidance is not included in either the modification guidance letter or the final version of the DA PAM. OSARDA, acquisition policy writers for the Army, believe upgrades, because of the requirement to return to Milestone 0, are under the oversight of the DCSOPS. To date, there is no formal guidance on upgrades from DCSOPS to the field. The lack of formal guidance, coupled with the fact that the material developer does not control all the assets needed to change, makes modification and upgrade programs more challenging than new starts.

The guiding principle behind the Army's modification program is the close and effective coordination between the material developer (producer) and CBTDEV (customer). The material developer receives a proposal for modification from any source. They take the proposal and conducts a study on the feasibility of the modification. If the change addresses only contractual factors, the material developer is the sole approving authority. The originator receives all rejection proposals with a rationale for the action. Proposals that affect form, fit, function and logistics supportability are jointly reviewed by the material developer and CBTDEV. Rejected proposals follow the same process as above. For ACAT I or II level modification, the CBTDEV and material developer forward the recommendations to the DA for approval and prioritization. Approval action for ACAT I or joint interest ACAT II belongs with the JROC for approval. Approval and prioritization of ACAT III and IV modifications belong to the CBTDEV level. When either DCSOPS or the CBTDEV validates, prioritizes and funds the modification, it is returned to material developer for execution.

The Acquisition Strategy (AS) is the PM's controlling document for all modifications. The AS contains the framework for planning and managing the acquisition program. The modification portion of the AS includes all modifications approved and prioritized by CBTDEV. The material developer is responsible for the integration of all approved modifications on the program. The AS replaces the System Improvement Plan as the controlling document for modifications. The AS is the key building block for the Integrated Program Summary (IPS).

Major modifications, ACAT I, milestones are approved at Defense or Army Acquisition Executive (AAE) levels, unless del-

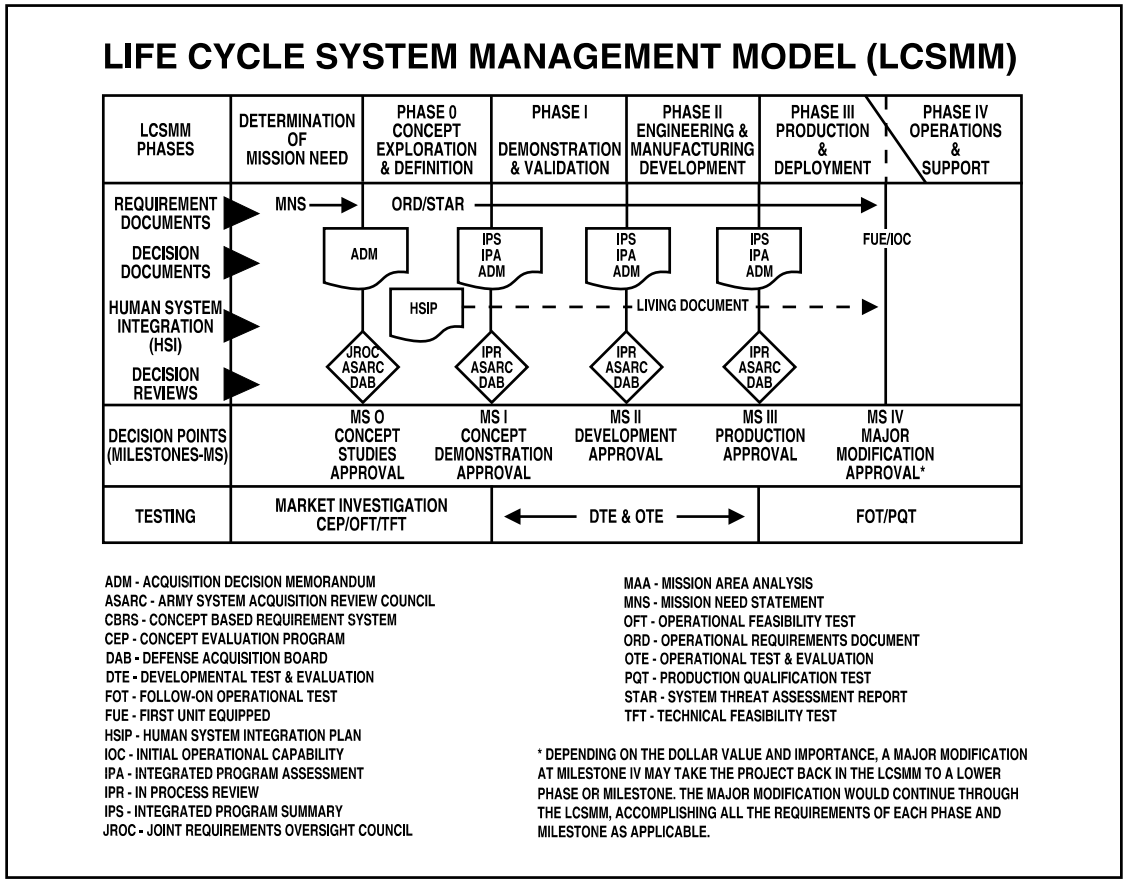

Figure 3-5. Life Cycle System Management Model (LCSMM)

egated lower. These programs require a Milestone IV decision with all it's accompanying documentation. ACAT II, III and IV approvals are normally at the AAE, PEO or System Command level. The current policy for ACAT II, III and IV system documentation states the material developer should only prepare the documents necessary to obtain a favorable milestone decision.[24] This provides the material developer the maximum flexibility in the preparation of the IPS. This does not relieve the functional support staff at the milestone decision level from preparing an integrated program assessment.

Upgrades are different from modifications because of the point of entry into the Life-Cycle Systems Management Model (LCSMM). Upgrades return to Milestone 0 for evaluation and are treated, for the most part, as a new start. In theory, upgrade programs require an even closer and more effective coordination between the material developer and CBTDEV. Upgrade programs are usually driven by changes in mission needs since the item is no longer in production. Once the CBTDEV validates the mission need and updates the ORD, the upgrade is returned to the material developer for action at the appropriate milestone decision level and phase of the LCSMM. For ACAT I and II programs, a Special Task Force or Special Study Group normally con

ducts Phase 0, concept exploration.

The Engineering Change Proposal (ECP) process is used to formalize and incorporate approved modifications and upgrades into the systems technical data package. These approved changes are applied to fielded systems in three ways, depending on the nature of the change. First, component modernization is the method in which subassemblies are improved and fielded through the supply system as part of the normal replenishment system. Form, fit, function and support requirements of a component cannot change when using this method. The second method is the use of the Equipment Improvement Recommendation Digest Technical Bulletin to allow the user to accomplish minor alterations on the fielded system. These minor alterations must be accomplished in less than two hours and be within the capability of the using unit. The third method is the retrofit of fielded systems by an application of a Modification Work Order (MWO). These MWOs are used whether the change is applied in the field, depot or contractor's facility. There are three classifications of MWOs: emergency, urgent and routine. Emergency MWOs have the highest priority and immediate deadline, not capable of performing its operational mission, all affected systems. They require the material developer and CBTDEV to reallocate funding. Emergency MWOs are used to correct immediate operational/safety conditions and must be applied when the kit is available. Urgent MWOs are used when the condition is less critical but operational restriction must be applied to the system. Urgent MWOs must be applied as soon as practicable but not later than two years. Routine MWOs address all other factors and must be applied within four years.

Acquisition and combat development communities easily understand the funding guidance for modifications and upgrades. The type of funding (color of money) used to accomplish the change is based on two factors. Does the change increase the demonstrated performance envelope and is the end item in production? The RDT&E funds will be used to finance redesign of an item to increase the current demonstrated performance envelope.[25] This includes both systems in production and the operational inventory.[26] Procurement funds are used to procure the kits and install them for systems in and out of production.[27] Non-recurring engineering, for the changes that do not increase the performance envelope, use different colors of money based on system production status. Procurement funds are used for non-recurring engineering if the system is in production.[28] Systems out of production use operations and maintenance, Army (OMA) funds, to pay for non-recurring engineering.[29] The use of two definable criteria, to determine the color of money required to accomplish a material change, has simplified the funding portion of the upgrade and modification process.

The test and evaluation policy for modifications and upgrades are, in theory, even clearer than the guidance for funding. The draft Army Regulation (AR) 73-1, scheduled for publication in mid 1995, focuses the testing program level based solely on the impact of the change on the operational community. Changes, after Milestone III, responding to changes in new or revised operational requirement, or a P^3I to fill an existing operational requirement, must have an independent development and operational evaluation to support the decision to apply the change.[30] This is not the only instance there this level of independent development and operational evaluation will

MODIFICATION FUNDING TABLE
(Appropriation vs Program Status)

APPLICABLE APPROPRIATION	PROGRAM STATUS: IN PRODUCTION		PROGRAM STATUS: OUT OF PRODUCTION	
	Increase to the then current performance envelope.	No increase to the then current performance envelope.	Increase to the then current performance envelope.	No increase to the then current performance envelope.
RDTE	YES Non-Recurring Cost	NO	YES Non-Recurring Cost	NO
PROCUREMENT	YES Recurring Cost	YES Non-Recurring and Recurring Cost	YES Recurring Cost	YES Recurring Cost
OMA	NO	NO	NO	YES Non-Recurring Cost

Figure 3-6. Modification Funding Table

occur. If the CBTDEV feels the change has an operational impact, the request is sent to the Test Integration Work Group (TIWG) principals for additional testing. The TIWG will determine the level of independent development and operational evaluation needed to support the decision to apply the change. The material developer has the responsibility to determine the level of testing needed to support the decision to apply changes that do not have an operational impact. In theory, the need for and intensity of testing required to support the decision is weighted against the impact of incorporating the change.

The management of modifications and upgrades at the program level is, for the most part, the same as a new start. Modification and upgrade programs build on the existing structure of the original program. Configuration control, integrated logistic support,

information systems and business management are normally modeled along the same design of the base program. These areas are able to maximize the management commonality between the old and new systems. The modification and upgrade programs' engineering design is not as lucky. Such designs are constrained by the existing systems design and accessibility. For example, design changes to the Army's TOW missile are limited by original design of the missile that restricts access only to internal components in the warhead and aft section. Physical restriction may not be the only problem; older generation systems normally had restricted architecture and limited modularity. Newer systems, driven by greater complexity and lower rates of production, tend to offer a more open architecture and modular design.

New Trends in Modifications and Upgrades

The Army, in an effort to maximize its limited modernization dollars, has initiated three programs: HTI, Operating and Support Cost Reduction Program (OSCR), and Warfighter Rapid Acquisition Program (WRAP). These three programs are designed to provide the Army the latest technology, across the greatest number of systems, at the lowest LCC and with a limited initial investment.

HTI is one of the Army's five enabling strategies for modernization. The goal of HTI is to rapidly exploit leading edge technologies across multiple systems. HTI's objective is to break away from the traditional vertical stovepipe approach to system acquisition. It provides a method to simultaneously integrate and field new technologies across platforms by a method of component level upgrades and modifications. This concept may not be new but current HTI programs have brought integration to a higher level than any previous Army attempt. HTI systems increase operability across the force structure. They have lower overall development cost than individual programs because the development costs are shared by multiple plat-

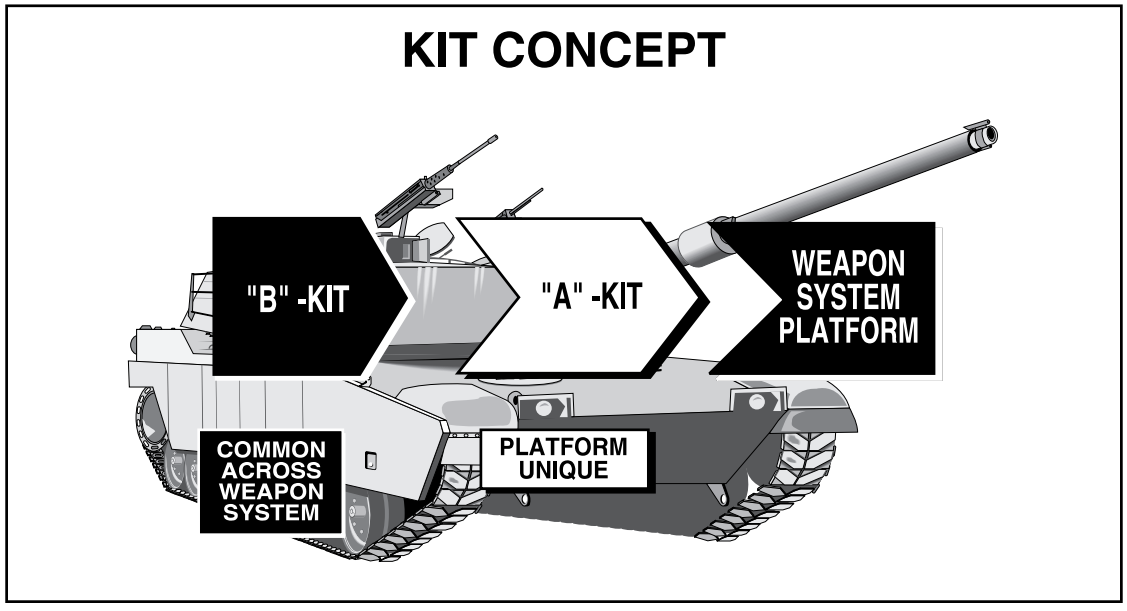

Figure 3-7. HTI Kit Concept

forms. The commonality of HTI components reduce procurement cost by affording economies of scale on the common component. Fielding a common subsystem reduces operational and support cost by allowing standardization of components, simplified maintenance and more efficient use of personnel by concentrating critical operator and support skills.

HTI is not a panacea. It is difficult to coordinate multiple components over multiple platforms with a stove pipe management structure. PMs are chartered to manage their individual program. Breaking this paradigm is the most challenging part of HTI. The PEOs have become even more important because of their ability to look across systems. In addition, HTI programs may not achieve the projected Research, Development and Acquisition (RDA) cost savings. Life-cycle savings should be achieved by common components but the initial cost of platform integration has shown to be higher than planned.[31] Though HTI will be difficult, it may be the Army's only way to incorporate leading edge technologies across multiple systems.

OSCR is an Army program focused on reducing operating and support(O&S) costs. The Army spends nearly half its budget, directly or indirectly, on the O&S of its mission equipment.[32] These include the cost of items ranging from spare and repair parts for equipment to the facilities and people involved in training operators and mechanics. OSCR provides a procedure for submitting unfunded O&S cost reduction initiatives to HQ, Army Materiel Command, or DA. OSCR programs may range from focusing the technology base on a generic costs' drivers to technology insertion (TI) in defense business operations fund (DBOF) processes at component levels. Each TI in the DBOF process allows the IM at the National Inventory Control Point to manage the future availability of spares. DBOF funding may be selectively used to apply "state of practice" technology as long as the change does not enhance performance or capability. The IM can use this process to eliminate high cost, high maintenance, obsolete, unique and/or long-lead time components. This program began three years ago but low funding levels prevent its full implementation. During this POM cycle, a recent U.S. Army Audit Agency report revitalized the program. The report shows the need for a system to level the playing field for O&S based modifications and upgrades. Currently, O&S based modifications and upgrades do not compete on equal terms for funding with performance-based improvement.[33] Both PMs and CBTDEVs are, for the most part, focusing on winning the war not on savings in future years. Prior to OSCR, PMs were forced to use scarce RDA dollars to achieve long-term savings of OMA dollars, of which they had no control. The OSCR program removes this disincentive for the PM by funding the investment in O&S cost improvement.

Warfighting Rapid Acquisition Program (WRAP) is the newest of the Army's programs with the goal of putting modern equipment in the hands of the soldier. WRAP is a process designed to accelerate procurement of equipment that was successful in a BL Advanced Warfighting Experiment (AWE). One purpose of WRAP is to integrate product and process design, taking AWE validated concepts to an abbreviated development cycle. The Battle Technology Team is key to this transition. The team consists of the Chief BL, advance concept manager, tester, cost analysts, program analysts and contracting. The team is responsible for preparing the management plan using a streamlined acquisition ap-

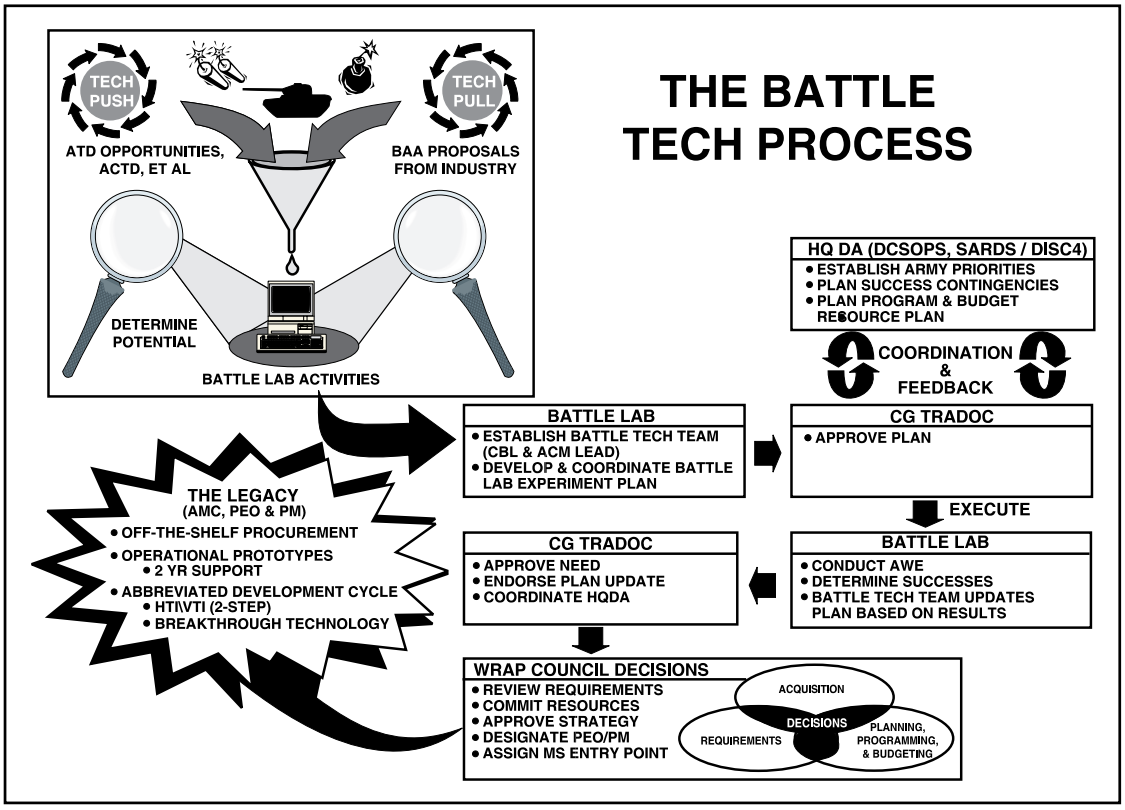

Figure 3-8. The Battle Tech Process

proach. If successful in AWE, the program is forwarded to the WRAP Council for approval. This executive level documentation contains the programs' vital objectives, TRADOC approved requirement, technical approach, critical events, transition options, schedule, funding and participants. This document can be no longer than 25 pages. The WRAP council is co-chaired by the DCSOPS and Military Deputy to Assistant Secretary of the Army (Research, Development and Acquisition). The council consists of the senior members of testing, logistic, financial management, operational and RDA communities. The council reviews the requirement, commits resource, approves the strategy, designates PEO/PM and assigns milestone entry point. The goal of the program is to take an AWE validated technology and rapidly transition it into an accelerated acquisition program.

Summary

The Army's modification and upgrade processes are still evolving and benefiting from acquisition reform. The drive to lower the milestone decision authority should reduce development time and documentation load on the PM. New processes such as HTI, OSCR, and WRAP provide opportunities to reduce life-cycle costs and quickly provide new technology to the soldier. The lack of new starts has driven weapon design to focus more on open architecture and modular components in an effort to achieve these required improvements. Reductions in RDA funding have forced the Army to focus the

modernization and S&T effort. In the past, modifications and upgrades were applied without user input.[34] These improved processes are designed to prevent this from happening. In today's environment, the PM must never forget whom he supports, the soldier.

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